

# How Long Is It?

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**Reporting Category** Measurement

**Topic** Comparing two objects, using nonstandard units of measure, according to length (shorter, longer)

## Materials

- Linking cubes
- Index cards with pictures of objects in the classroom (e.g., table, pencil, yardstick, bookcase, window sill, sand table, desk, sink, a floor tile) and arrows on the pictures to identify the lengths that students should measure
- Chart paper
- Masking tape
- Yarn

## Vocabulary

*measure, length, shorter, longer, ruler*

## Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Formally introduce the concept of measuring length by reading aloud a relevant piece of children's literature. Ask students what could be used to measure how long something is (ruler, yardstick, measuring tape). Tell students that they will be measuring objects in the classroom with linking cubes to determine how long the objects are. Model how to measure the length of one edge of a table. Have a student place linking cubes along the edge of the table top, and then have him/her count the cubes to determine the length of one edge of the table. Model again, using the edge of the book. Have students express the results as, "The edge of the table is X cubes long."
2. Group students into pairs. Distribute index cards with pictures of classroom objects, and give a container of linking cubes to each pair. Have student partners measure the length of each object shown on the cards. After all students have measured the objects, record the results on chart paper. Talk about which object was the longest, which objects were longer than other objects, which object was the shortest, and which objects were shorter than other objects.
3. For the second part of the lesson, have students participate in a broad jump activity. Place the masking tape on the floor to mark a broad jump starting point in a suitable, safe space. Have students take turns jumping from the starting point with two feet. The teacher will

measure the distance each student jumps using yarn as the nonstandard measuring tool. Once a student's broad jump distance is measured with the yarn, cut the yarn to that length, and put it in a bag. After all jumps have been measured, have the class sit in a circle. Call students one at a time to pick a length of yarn from the bag and bring it to the middle of the circle and lay them down side by side so the class can compare the lengths, using the terms *longer* and *shorter*. Repeat until every student has had a turn comparing a broad jump length to another.

### **Assessment**

- **Questions**
  - "What did you think about in order to compare the lengths of yarn?"
  - "What else could you measure with yarn?"
  - "What tool or tools would you use to measure the length of your foot? What tool or tools would you use to measure the length of the cafeteria?"
- **Journal/Writing Prompts**
  - "Draw a picture of something that is longer than your pencil. Draw a picture of something that is shorter than your pencil."
  - "What are some things at home that you might need to measure the lengths of? Why would you need to measure the lengths of these things?"
- **Other**
  - Group the students into small groups, and have each group make a train, using three linking cubes. Then, have each group make another train, using four cubes. Have each group identify the longer and shorter trains.
  - Give each student a recording sheet with pictures of classroom objects to be measured. Let students decide what nonstandard unit of measure he/she will use (e.g., popsicle stick, paper clip, pencil). Have students move around the room, measuring and recording their measurements. Observe and ask students questions as they work.

### **Extensions and Connections (for all students)**

- Use the body to model or represent "long" by spreading arms wide and "short" by using fingers. For example, ask, "Show me what 'long' looks like." or "Show me how long an elephant's trunk is." "Show me what 'short' looks like." or "Show me how short a worm is."
- Have students draw the classroom objects they measured and place their drawings on a class chart divided into columns by lengths: Longer and Shorter.
- Lead students in creating minibooks with patterned sentences following instruction in the concepts. The patterned sentences could be placed one per page and might read as follows: "The pencil is longer than the eraser." "The bookshelf is shorter than the door." "The bike is shorter than the bus." Guide students in illustrating their minibooks to show shorter and longer.